

A B S T R A C T

There is described is a process for the isolation and purification of nucleic acids such as plasmid or genomic DNA from cells or other sources, wherein

- a) the cells containing nucleic acids are digested and cell debris is removed, or other samples containing nucleic acids are treated with anion exchangers, namely, in buffer solutions of low ionic strength,
- b) thereafter, the nucleic acids are desorbed from the anion exchanger using a buffer of high ionic strength, in order to be subsequently
- c) treated in said buffer of high ionic strength or in the presence of lower alcohols and/or poly(ethylene glycol) with a mineral support material, with adsorption of the nucleic acid to the surface of the mineral support materials, whereupon
- d) desorption of the nucleic acid is effected using water or a buffer solution of low ionic strength.

The device for operating the inventive process consists of a hollow body (1) with an inlet opening (7) and an outlet opening (8), wherein in the hollow body (1), between two securing means (5, 6), a powdered first material based on silica gel (10) is arranged, and a second material (11) is placed between the first material (10) and the outlet opening (8), the first and second materials (10, 11) having different adsorption characteristics for nucleic acids.